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PROTECTING YOUR PROPERTY FROM EROSION

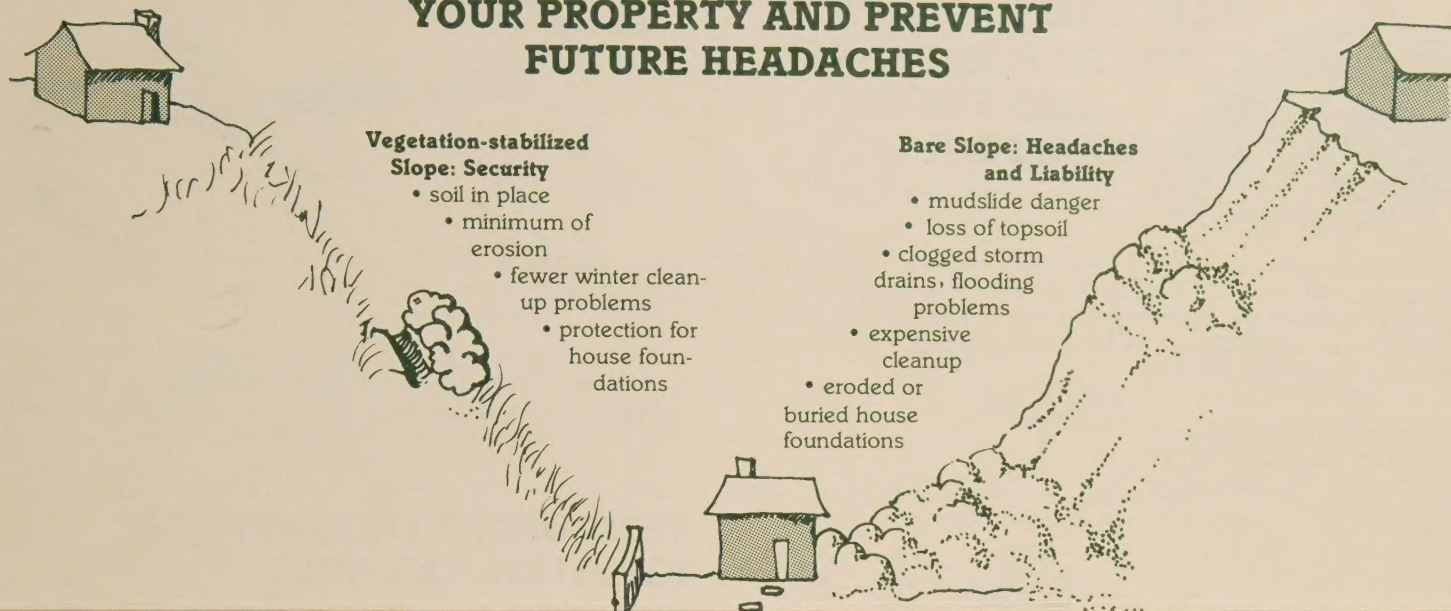


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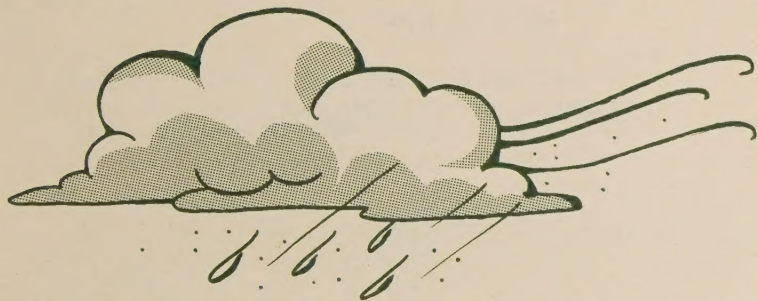
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EROSION CONTROL CAN PROTECT YOUR PROPERTY AND PREVENT FUTURE HEADACHES



WHY SHOULD WE WORRY ABOUT SOIL EROSION?



Water and wind carry soil from our Bay Area land down into our streams, lakes and the Bay. This soil carries with it pollutants such as oil and grease, chemicals, fertilizers, animal wastes and bacteria, which threaten our water quality.

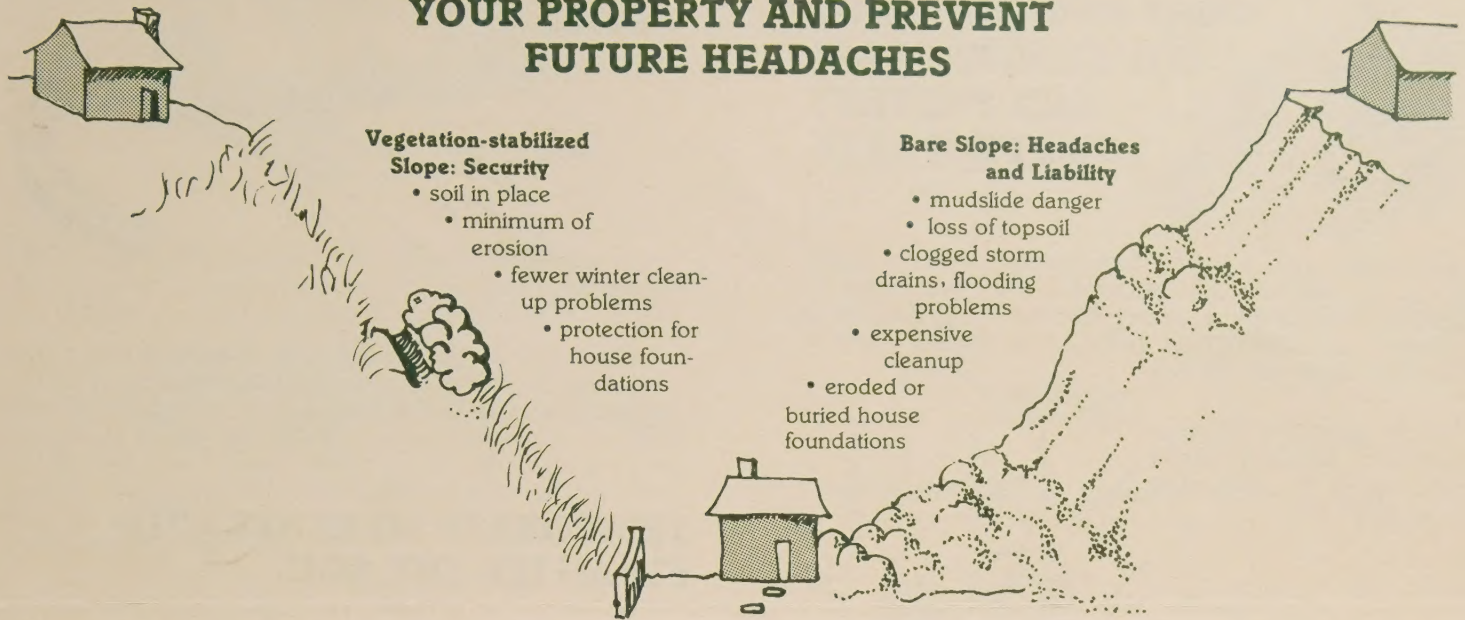
Such erosion also costs the home construction industry, local government, and the homeowner untold millions of dollars a year.

Nature slowly wears away land, but human activities such as construction increase the rate of erosion 200, even 2,000 times that amount. When we remove vegetation or other objects that hold soil in place, we expose it to the action of wind and water and increase its chances of eroding.

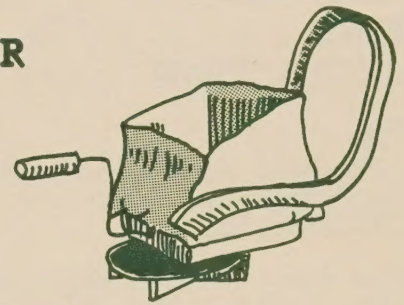
The loss of soil from a construction site results in loss of topsoil, minerals and nutrients, and it causes ugly cuts and gullies in the landscape. Surface runoff and the materials it carries with it clog our culverts, flood channels and streams. Sometimes it destroys wildlife and damages recreational areas such as lakes and reservoirs.

As an example, road and home building in the Oakland hills above Lake Temescal filled the lake to such an extent that it had to be dredged in 1979 at a public cost of \$750,000.

EROSION CONTROL CAN PROTECT YOUR PROPERTY AND PREVENT FUTURE HEADACHES



TIPS FOR THE HOMEOWNER

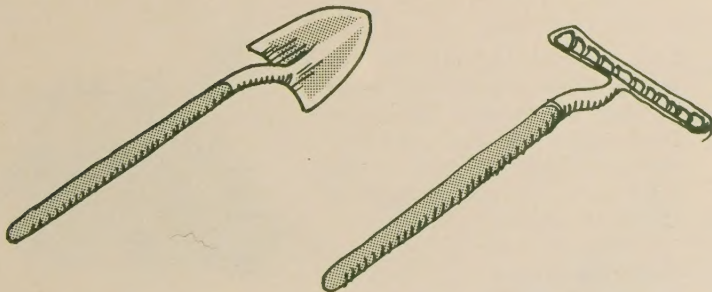


"Winterize" your property by mid-September. Don't wait until spring to put in landscaping. You need **winter protection**. Final landscaping can be done later.

Inexpensive measures installed by fall will give you protection quickly that will last all during the wet season.

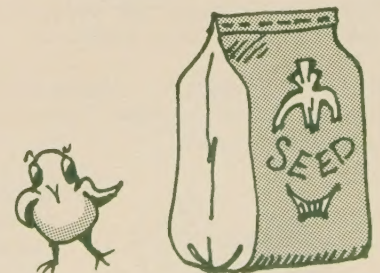
Seeding of bare slopes

- Hand broadcast or use a "breast seeder." A typical yard can be done in less than an hour.
- Give seeds a boost with fertilizer.
- Mulch if you can, with grass clippings and leaves, bark chips or straw.
- Use netting to hold soil and seeds on steep slopes.
- Check with your local nursery for advice.



In one afternoon you can:

- Dig trenches to drain surface runoff water away from problem areas such as steep, bare slopes.
- Prepare bare areas on slopes for seeding by raking the surface to loosen and roughen soil so it will hold seeds.



Winter alert

- Check before storms to see that drains and ditches are not clogged by leaves and rubble.
- Check after major storms to be sure drains are clear and vegetation is holding on slopes. Repair as necessary.
- Spot seed any bare areas.



WHAT YOU CAN DO TO CONTROL EROSION AND PROTECT YOUR PROPERTY

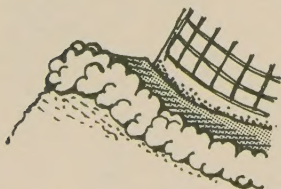
Soil erosion costs Bay Area homeowners millions of dollars a year. We lose valuable topsoil. We have to pay for damage to roads and property. And our tax money has to be spent on cleaning out sediment from storm drains, channels, lakes and the Bay.

You can protect your property and prevent future headaches by following these guidelines:



BEFORE AND DURING CONSTRUCTION

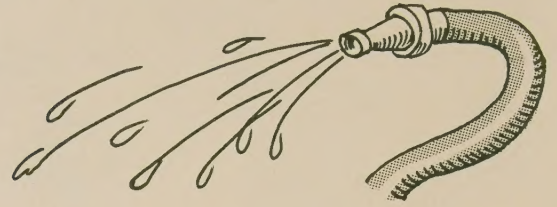
- Plan construction activities during spring and summer, so that erosion control measures can be in place when the rain comes.
- Examine your site carefully before building. Be aware of the slope, drainage patterns and soil types. Proper site design will help you avoid expensive stabilization work.
- Preserve existing vegetation as much as possible. Limit grading and plant removal to the areas under current construction. (Vegetation will naturally curb erosion, improve the appearance and the value of your property, and reduce the cost of landscaping later.)
- Use fencing to protect plants from fill material and traffic. If you have to pave near trees, do so with permeable asphalt or porous paving blocks.
- Preserve the natural contours of the land and disturb the earth as little as possible. Limit the time in which graded areas are exposed.



- Minimize the length and steepness of slopes by benching, terracing, or constructing diversion structures. Landscape benched areas to stabilize the slope and improve its appearance.

- As soon as possible after grading a site, plant vegetation

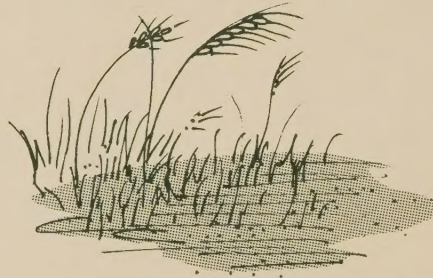
on all areas that are not to be paved or otherwise covered.



- Control dust on graded areas by sprinkling with water, restricting traffic to certain routes, and paving or graveling access roads and driveways.

TEMPORARY MEASURES TO STABILIZE THE SOIL

Grass provides the cheapest and most effective short-term erosion control. It grows quickly and covers the ground completely. To find the best seed mixtures and plants for your area, check with your local nursery, the U.S. Department of Agriculture Soil Conservation Service, or the University of California Cooperative Extension.

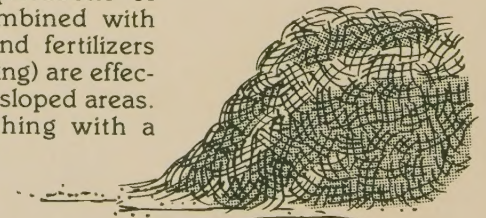


Mulches hold soil moisture and provide ground protection from rain damage. They also provide a favorable environment for starting and growing plants. Easy-to-obtain mulches are grass clippings, leaves, sawdust, bark chips and straw.

Straw mulch is nearly 100% effective when held in place by spraying with an organic glue or wood fiber (tackifiers), by punching it into the soil with a shovel or roller, or by tacking a netting over it.

Commercial applications of wood fibers combined with various seeds and fertilizers (hydraulic mulching) are effective in stabilizing sloped areas. Hydraulic mulching with a tackifier should be done in two separate applications: the first

composed of seed fertilizer and half the mulch, the second composed of the remaining mulch and tackifier. Commercial hydraulic mulch applicators — who also provide other erosion control services — are listed under "landscaping" in the phone book.





Mats of excelsior, jute netting and plastic sheets can be effective temporary covers, but they must be in contact with the soil and fastened securely to work effectively.

Roof drainage can be collected in barrels or storage containers or routed into lawns, planter boxes and gardens. Be sure to cover stored water so you don't collect mosquitos, too. Excessive runoff should be directed away from your house. Too much water can damage trees and make foundations unstable.

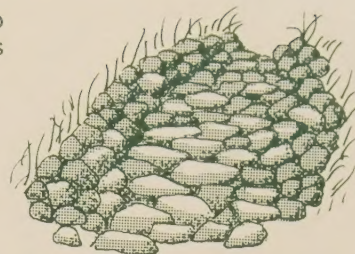
STRUCTURAL RUNOFF CONTROLS

Even with proper timing and planting, you may need to protect disturbed areas from rainfall until the plants have time to establish themselves. Or you may need permanent ways to transport water across your property so that it doesn't cause erosion.

To keep water from carrying soil from your site and dumping it into nearby lots, streets, streams and channels, you need ways to reduce its volume and speed. Some examples of what you might use are:

- **Riprap** (rock lining) — to protect channel banks from erosive water flow

- **Sediment trap** — to stop runoff carrying sediment and trap the sediment



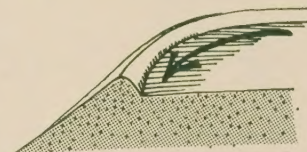
- **Storm drain outlet protection** — to reduce the speed of water flowing from a pipe onto open ground or into a natural channel

- **Diversion dike or perimeter dike** — to divert excess water to places where it can be disposed of properly

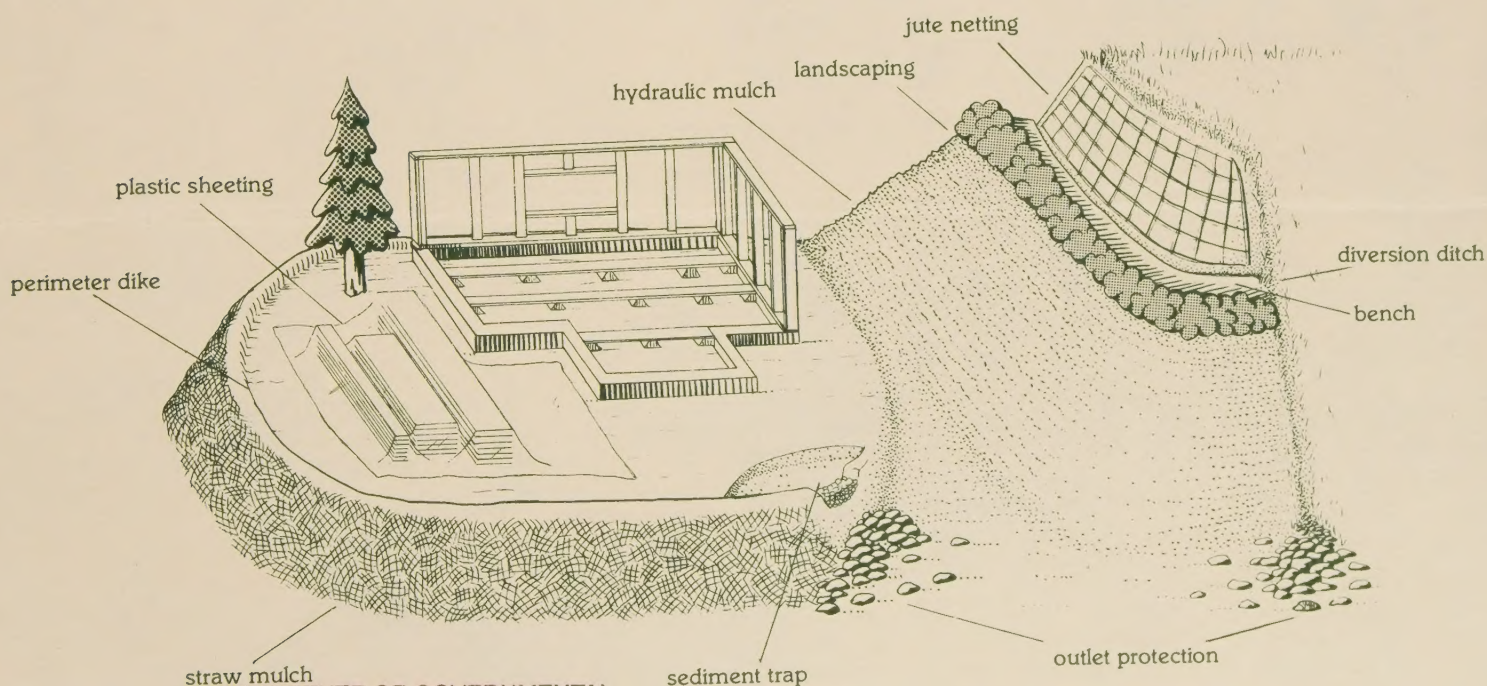


- **Straw bale dike** — to stop and detain sediment from small unprotected areas (a short-term measure)

- **Perimeter swale** — to divert runoff from a disturbed area or to contain runoff within a disturbed area



- **Grade stabilization structure** — to carry concentrated runoff down a slope



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NEED MORE INFORMATION?

ABAG has produced a slide/tape show on soil erosion called "Money Down the Drain." It is available for showing to any interested group. Call ABAG Public Affairs at (415) 841-9730.

ABAG has also published a "Manual of Standards for Surface Runoff Control Measures" which deals extensively with designs and practices for erosion prevention, sediment control, and control of urban runoff. The manual

addresses problems and solutions as they apply to California and the Bay Area. It can be purchased from ABAG and is available on reference at many local libraries and in city and county public works and planning departments.

USDA Soil Conservation Service personnel are willing to provide more information on specific erosion problems.

This brochure is a cooperative project of the Association of Bay Area Governments and the East Bay Regional Park District.

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